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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,230	04/09/2004	Raphael J. Mannino	BSZ-050	1325

959 7590 07/11/2006

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EXAMINER	
DUNSTON, JENNIFER ANN	
ART UNIT	**PAPER NUMBER**
1636	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/822,230	MANNINO ET AL.	
	Examiner	Art Unit	
	Jennifer Dunston	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2005 and 21 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37,53-78,115-124,142-152 and 154* is/are pending in the application.

4a) Of the above claim(s) *54-69,71-73,76 and 77* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37, 53, 70, 74-75, 78, 115-124, 142-152, 154* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/2/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 37, 53-78, 115-124, 142-152 and 154 are currently pending in the instant application.

Election/Restrictions

Applicant's election with traverse of Group II in the replies filed on 12/19/2005 and 4/21/2006 is acknowledged. The traversal is on the ground(s) that a one-way distinctness between the methods of Group I and the products of Group II has not been established. This is not found persuasive because the products of Group II can be made by a materially different process, as stated on page 3 of the Office action mailed 6/16/2005. The products of Group II can be made by a method comprising the steps of mixing a cargo moiety and a liposome and sonicating the mixture. At the time the restriction requirement was made, the method steps of the claimed methods required steps not present in the alternative method provided by the Examiner. For example, claim 1 required the step of precipitating, and claim 79 required the step of contacting a negatively charged lipid, a protonized cargo moiety, and a divalent metal cation such that a cochleate is formed. Thus, the method suggested by the Examiner is materially different process than the processes of the claims pending at the time the restriction requirement was made. The response does not question the merits of the alternative method presented by the Examiner.

Applicant's election without traverse of the species Amphotericin B as the cargo moiety, and methylcellulose as the aggregation inhibitor in the reply filed on 4/21/2006 is acknowledged.

The requirement is still deemed proper and is therefore made FINAL.

Applicant has indicated that claims 37, 70, 74-75, 115-124, 142-152 and 154 are readable on the elected species. Claims 70 and 74 depend from claim 53, which was not provided in the claim listing. Accordingly, claim 53 and claim 78 have also been deemed readable on the elected species. Claims 54-69, 71-73 and 76-77 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/21/2006.

An examination on the merits of claims 37, 53, 70, 74-75, 78, 115-124, 142-152 and 154 follows.

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed applications, Application Nos. 60/461,483 and 60/463,076, fail to provide adequate support or enablement in the manner provided by the first

paragraph of 35 U.S.C. 112 for one or more claims of this application. The 60/461,483 application fails to provide support for the cochleate compositions comprising methylcellulose as an aggregation inhibitor. The specification of Application No. 60/463,076 teaches the use of casein as an aggregation inhibitor, but does not teach the use of other inhibitors recited in (for example, wax, resin or gum) or encompassed by the claims.

Accordingly, claims 74-75, 115-124, 142-146 and 154 have been assigned an effective filing date of 8/28/2003.

The disclosure of the prior-filed applications, Application Nos. 60/461,483, 60/463,076, 60/502,557, 60/537,252, 60/499,247, 60/532,755, and 60/556,192, fail to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The provisional applications fail to provide support for compositions comprising a first plurality of cochleates of a first mean particle size and a cargo moiety, and a second plurality of cochleates with a different mean particle size and different cargo moiety relative to the first plurality of cochleates.

Accordingly, claim 150 has been assigned an effective filing date of 4/9/2004.

Information Disclosure Statement

Receipt of an information disclosure statement, filed on 6/2/2005, is acknowledged. The signed and initialed PTO 1449 has been mailed with this action.

Reference C4 (US Patent Application Publication No. 2004/0092727) was listed under the non patent literature references. However, this document is a patent application publication. This reference has been considered and has been listed on a PTO-892.

Claim Objections

Claim 154 is objected to because of the following informalities: the claim depends from the "cochleate" or the "cochleate composition" of claim 154. It is improper for a dependent claim to depend from less than the entire claim from which it depends. It would be remedial for the claim to recite "a pharmaceutical composition comprising the cochleate composition of claim 115." Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 37 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 and 25-27 of U.S. Patent No. 5,840,707 (hereinafter the '707 patent).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-10 and 25-57 of the '707 patent. That is, claims 1-10 and 25-27 of the '707 patent fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-10 and 25-27 of the '707 patent. Specifically, the claims of the '707 patent are directed to a species of cochleate comprising a polynucleotide or nucleotide, a negatively charged lipid component, and a divalent cation component, which is encompassed by the structure of the cochleate of instant claim 37.

Thus, the instant claims, if allowed, would extend patent protection of the invention of the '707 patent. Further, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee holding the rights to the '707 invention, then two different assignees would hold patent claims to the claimed invention.

Claim 37 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12, 25-28, 31-33, 37, 10, 43, 45-46, 49, 51, 53, 57 and 58-59 of U.S. Patent No. 5,994,318 (hereinafter the '318 patent).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-12, 25-28, 31-33, 37, 10, 43, 45-46, 49, 51, 53, 57 and 58-59 of the '318 patent. That is, claims 1-12, 25-28, 31-33, 37, 10, 43, 45-46, 49, 51, 53, 57 and 58-59 of the '318 patent fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-12, 25-28, 31-33, 37, 10, 43, 45-46, 49, 51, 53, 57 and 58-59 of the '318 patent. Specifically, the claims of the '318 patent are directed to different species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

Thus, the instant claims, if allowed, would extend patent protection of the invention of the '318 patent. Further, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee holding the rights to the '318 invention, then two different assignees would hold patent claims to the claimed invention.

Claims 53, 70, 74, 75, 78, 115-124, 142-146 and 154 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 32 of U.S. Patent No. 5,994,318 in view of Unger et al (US Patent No. 6,120,751; see the entire reference).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other. Instant claims 53, 70, 74, 75 and 78 are drawn to anhydrous cochleate compositions where the composition comprises methylcellulose and a pharmaceutically acceptable carrier. Instant claims 115-124, 142-146 and 154 are drawn to cochleate compositions comprising a plurality of cochleates comprising Ampohotericin B, methylcellulose and a pharmaceutically acceptable carrier, including forms for nasal sprays. Claim 32 of the '318 patent is drawn to a cochleate composition comprising a lipophilic antifungal drug, a negatively charged lipid component, and a divalent cationic component. The issued claims differ from the instant claims in that they do not require methylcellulose or a pharmaceutical carrier. Unger et al teach the addition of methylcellulose to cochleate compositions comprising the antifungal drug Amphotericin B to stabilize the composition and teach pharmaceutical compositions comprising the disclosed cochleates and a pharmaceutically acceptable carrier (e.g. column 42, line 66 to column 43, line 26; column 33, line 61 to column 34, line 43; paragraph bridging columns 78-79). One would be motivated to combine the invention of the '318 patent with the teachings of Unger et al to receive the expected benefit of formulating pharmaceutical compositions of Amphotericin B with greater stability. Further, the issued claims differ from the instant claims in that they do not require the composition to be

anhydrous. Unger et al teach that the cochleate compositions of the invention may be lyophilized with conventional techniques and cryopreserving agents (e.g. column 64, lines 6-9). One would have been motivated to lyophilize the claimed compositions of the '318 patent to receive the expected benefit of preserving the agents until they need to be reconstituted for administration to a subject (e.g. column 64, lines 6-9).

Thus, the instant claims, if allowed, would extend patent protection of the invention of the '318 patent. Further, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee holding the rights to the '318 invention, then two different assignees would hold patent claims to the claimed invention.

Claim 37 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13-16 and 26 of U.S. Patent No. 6,153,217 (hereinafter the '217 patent).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 13-16 and 26 of the '217 patent. That is, claims 13-16 and 26 of the '217 patent fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37

is anticipated by claims 13-16 and 26 of the '318 patent. Specifically, the claims of the '217 patent are directed to different species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

Thus, the instant claims, if allowed, would extend patent protection of the invention of the '217 patent. Further, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee holding the rights to the '217 invention, then two different assignees would hold patent claims to the claimed invention.

Claims 53, 70, 74, 75, 78, 115-124, 142-146 and 154 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 15 of U.S. Patent No. 6,153,217 (hereinafter the '217 patent) in view of Unger et al (US Patent No. 6,120,751; see the entire reference).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other. Instant claims 53, 70, 74, 75 and 78 are drawn to anhydrous cochleate compositions where the composition comprises methylcellulose and a pharmaceutically acceptable carrier. Instant claims 115-124, 142-146 and 154 are drawn to cochleate compositions comprising a plurality of cochleates comprising Ampohotericin B,

methylcellulose and a pharmaceutically acceptable carrier, including forms for nasal sprays. Claim 15 of the '217 patent is drawn to a cochleate composition of less than one micron that comprises Amphotericin B, a negatively charged lipid, and a divalent cation component. The issued claims differ from the instant claims in that they do not require methylcellulose or a pharmaceutical carrier. Unger et al teach the addition of methylcellulose to cochleate compositions comprising Amphotericin B to stabilize the composition and teach pharmaceutical compositions comprising the disclosed cochleates and a pharmaceutically acceptable carrier (e.g. column 42, line 66 to column 43, line 26; column 33, line 61 to column 34, line 43; paragraph bridging columns 78-79). One would be motivated to combine the invention of the '217 patent with the teachings of Unger et al to receive the expected benefit of formulating pharmaceutical compositions with greater stability. Further, the issued claims differ from the instant claims in that they do not require the composition to be anhydrous. Unger et al teach that the cochleate compositions of the invention may be lyophilized with conventional techniques and cryopreserving agents (e.g. column 64, lines 6-9). One would have been motivated to lyophilize the claimed compositions of the '217 patent to receive the expected benefit of preserving the agents until they need to be reconstituted for administration to a subject (e.g. column 64, lines 6-9).

Thus, the instant claims, if allowed, would extend patent protection of the invention of the '217 patent. Further, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee holding the rights to the '217 invention, then two different assignees would hold patent claims to the claimed invention.

Claim 37 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 6,340,591 (hereinafter the '591 patent).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-28 of the '591 patent. That is, claims 1-28 of the '591 patent fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-28 of the '591 patent. Specifically, the claims of the '591 patent are directed to different species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

Thus, the instant claims, if allowed, would extend patent protection of the invention of the '591 patent. Further, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee holding the rights to the '591 invention, then two different assignees would hold patent claims to the claimed invention.

Claim 37 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/759,381 (hereinafter the '381 application).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-20 of the '381 application. That is, claims 1-20 of the '381 application fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-20 of the '381 application. Specifically, the claims of the '381 application are directed to species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 37 and 115-117 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 and 34-43 of copending Application No. 10/822,235 (hereinafter the '235 application).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226

(Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-13 and 34-43 of the '235 application. That is, claims 1-13 and 34-43 of the '235 application fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-13 and 34-43 of the '235 application. Specifically, the claims of the '235 application are directed to species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37. Further, claims 115-117 are generic to all that is recited in claims 13 and 42. That is, claims 13 and 42 of the '235 application fall entirely within the scope of claims 115-117 of the instant application or, in other words, instant claims 115-117 are anticipated by each of claims 13 and 42. Specifically, claims 13 and 42 of the '235 application are directed to species of cochleate compositions comprising an aggregation inhibitor, which are encompassed by instant claims 115-117.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 37 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 23-29, 64 and 73-102 of copending Application No. 11/040,615 (hereinafter the '615 application).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been

obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-7, 23-29, 64 and 73-102 of the '615 application. That is, claims 1-7, 23-29, 64 and 73-102 of the '615 application fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-7, 23-29, 64 and 73-102 of the '615 application. Specifically, the claims of the '381 application are directed to species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 37 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 and 21-25 of copending Application No. 11/047,373 (hereinafter the '373 application).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical,

they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-14 and 21-25 of the '373 application. That is, claims 1-14 and 21-25 of the '373 application fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-14 and 21-25 of the '373 application. Specifically, the claims of the '373 application are directed to species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 37 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 and 19-20 of copending Application No. 11/051,562 (hereinafter the '562 application).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claims 1-9 and 19-20 of the '562 application. That is, claims 1-9 and 19-20 of the '562 application fall entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claims 1-9 and 19-20 of the '562 application. Specifically, the

claims of the '562 application are directed to species of cochleate compositions, which are encompassed by the structure of the cochleate composition of instant claim 37.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 37 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 208 of copending Application No. 11/057,049 (hereinafter the '049 application).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 37 is generic to all that is recited in claim 208 of the '049 application. That is, claim 208 of the '049 application falls entirely with the scope of claim 37 of the instant application or, in other words, instant claim 37 is anticipated by claim 208 of the '049 application. Specifically, claim 208 of the '049 application is directed to a cochleate composition comprising a therapeutic cargo moiety and a lipid, which is encompassed by the structure of the cochleate composition of instant claim 37.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37, 53, 70, 74-75, 78, 115-124, 142-149, 151-152 and 154 are rejected under 35 U.S.C. 102(b) as being anticipated by Unger et al (US Patent No. 6,120,751; see the entire reference).

Regarding claim 37, Unger et al a cochleate composition comprising charged lipids, counter ions, and at least one lipid which is covalently bonded to a polymer (i.e. a cargo moiety) (e.g. column 9, line 66 to column 10, line 38). Further, Unger et al teach the production of the cochleate by mixing the charged lipid and lipid covalently bound to a polymer in solution, such that vesicles or liposomes are formed, and adding a counterion (e.g. paragraph bridging columns 10-11; column 33, lines 39-60). Moreover, Unger et al teach that the addition of the lipid covalently bonded to the polymer at an amount less than about 5%, the composition will generally precipitate (e.g. paragraph bridging columns 10-11). Thus, one would necessarily expect the composition of Unger et al to have the same structure as those structures encompassed by instant claim 37.

Regarding claims 53 and 70, Unger et al a cochleate composition comprising charged lipids, counter ions, and at least one lipid which is covalently bonded to a polymer (i.e. a cargo moiety) (e.g. column 9, line 66 to column 10, line 38). Further, Unger et al teach that the

cochleate compositions of the invention may be lyophilized with conventional techniques and cryopreserving agents (e.g. column 64, lines 6-9). Thus, Unger et al teach a composition comprising an anhydrous cochleate.

Regarding claims 74-75, Unger et al teach the cochleate compositions further comprising a stabilization compound such as the polysaccharide methylcellulose, which is an aggregation inhibitor (e.g. column 33, line 61 to column 34, line 43).

Regarding claim 78, Unger et al teach pharmaceutical compositions comprising the disclosed cochleates and a pharmaceutically acceptable carrier (e.g. paragraph bridging columns 78-79).

Regarding claims 115-120, Unger et al teach a cochleate composition comprising a plurality of cochleates comprising charged lipids, counter ions, and at least one lipid which is covalently bonded to a polymer (i.e. a cargo moiety) (e.g. column 9, line 66 to column 10, line 38). Further, Unger et al teach the addition of a stabilization compound such as the polysaccharide methylcellulose, which is an aggregation inhibitor (e.g. column 33, line 61 to column 34, line 43). The mixing of the methylcellulose with the cochleate composition will necessarily result in the coating of the cochleate by the methylcellulose.

Regarding claims 121-124, Unger et al teach that the diameter of the cochleates may be varied and selected based upon the application, with 30 nm preferred for intravascular applications and 100 nm preferred for therapeutic delivery to the liver (e.g. column 79, lines 30-56).

Regarding claims 142-143, Unger et al teach that the cochleates further comprising an antifungal agent such as Amphotericin B (e.g. column 42, line 66 to column 43, line 26).

Regarding claims 144-145, Unger et al teach the cochleate compositions comprising Amphotericin B further comprising a stabilization compound such as the polysaccharide methylcellulose, which is an aggregation inhibitor (e.g. column 42, line 66 to column 43, line 26; column 33, line 61 to column 34, line 43).

Regarding claim 146, Unger et al teach the nasal administration of the cochleates by inhalation via insufflation or nebulization, which would be a spray (e.g. paragraph bridging columns 76-77).

Regarding claims 147-149 and 151-152, Unger et al teach a cochleate composition comprising a plurality of cochleates comprising charged lipids, counter ions, and at least one lipid which is covalently bonded to a polymer (i.e. a cargo moiety) (e.g. column 9, line 66 to column 10, line 38). Further, Unger et al teach that cochleate compositions comprise a distribution of particles of different sizes, which can subsequently be selected for different mean particle sizes depending upon the desired application (e.g. column 79, lines 3-65; Example 16). Thus, prior to size selection, the population of cochleates will comprise one, two, three, etc. subpopulations of cochleates with the same cargo moiety, with each subpopulation having a different mean particle size.

Regarding claim 154, Unger et al teach pharmaceutical compositions comprising the disclosed cochleates and a pharmaceutically acceptable carrier (e.g. paragraph bridging columns 78-79).

Claims 37, 147-149 and 151-152 are rejected under 35 U.S.C. 102(b) as being anticipated by Yager et al (US Patent No. 5,851,536; see the entire reference).

Regarding claim 37, Yager et al teach cochleate compositions comprising a drug (i.e. cargo moiety) and lipid (e.g. Figures 1-5; column 6, lines 35-52). Yager et al teach numerous methods of forming the cochleate structures, which will result in the same structure as the method steps recited in instant claim 37 (e.g. column 17, line 55 to column 18, line 60).

Regarding claims 147-149 and 151-152, Yager et al teach that the preparation of the cochleate composition results in a range of cochleate sizes distributed about a mean (e.g. paragraph bridging columns 20-21). Within the larger population of molecules there will be multiple subpopulations (e.g. two, three, etc.), which have the same cargo moiety but differ in mean particle size.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 150 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yager et al (US Patent No. 5,851,536; see the entire reference).

Yager et al teach cochleate compositions comprising a drug (i.e. cargo moiety) and lipid (e.g. Figures 1-5; column 6, lines 35-52). Further, Yager et al teach that a wide range of tumor drugs in cochleate form can be injected into tumors (e.g. column 7, lines 20-23). Yager et al teach that many different drugs can be incorporated into cochleate compositions (e.g. column 14, line 28 to column 15, line 13). Moreover, Yager et al teach that the geometry of drug particles affects the kinetics of drug release, and sustained drug release can be achieved when the drug is released from the ends of the cochleate (e.g. paragraph bridging columns 6-7; column 21, lines 49-57; Figures 2-3). While unimodal distributions are not necessarily obtained by the method of making the cochleate molecules, Yager et al teach that the cochleates may be size selected (e.g. paragraph bridging columns 6-7). Yager et al teach that the cochleate drug delivery systems can provide controlled release of a drug in topical or subcutaneous applications (e.g. column 24, lines 8-10).

Yager et al do not specifically teach cochleate compositions comprising a first and second plurality of cochleates each with a different mean size and different cargo moiety.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cochleate compositions of Yager et al to include cochleates of two different lengths and carrying two different drugs (i.e. cargo moieties), which cochleates are taught by Yager et al, because Yager et al teach it is within the ordinary skill in the art to make a variety of cochleate molecules for drug delivery and Yager et al suggest the delivery of a wide range of drugs to tumors.

One would have been motivated to make such a modification in order to receive the expected benefit of being able to deliver more than one drug and being able to control the duration of the drug release through the selection of a particular length of cochleate for each drug, where the length is different for each drug. Based upon the teachings of the cited references, the high skill of one of ordinary skill in the art, and absent any evidence to the contrary, there would have been a reasonable expectation of success to result in the claimed invention.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Dunston whose telephone number is 571-272-2916. The examiner can normally be reached on M-F, 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel can be reached at 571-272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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